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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,886	04/16/2004	Alfred Eitel	PO8033/LeA34667	8600
34947 7590 05/02/2007 LANXESS CORPORATION 111 RIDC PARK WEST DRIVE PITTSBURGH, PA 15275-1112			EXAMINER MULLIS, JEFFREY C	
			ART UNIT	PAPER NUMBER
			1711	
			MAIL DATE	DELIVERY MODE
			05/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/825,886

Applicant(s)

EITEL ET AL.

Examiner

Jeffrey C. Mullis

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guntherberg et al. (US 5,851,463).

Guntherberg et al. discloses a process in which rubber such as SAN having up to 50% water is dewatered and combined with thermoplastic in an extruder as a melt (abstract, column 1, lines 31-39; note column 9, lines 24-29 for ABS and ASA graft/thermoplastic blends and the production of such blends in the examples). Note that the extruder has kneading blocks having a "pitch opposite to the transport direction" (column 3, lines 60-63 as well as column 4, lines 1-5) in order to squeeze out water a feature which would be expected to convey material backwards with respect to the direction of movement to the outlet. Applicants' limitation of movement of a portion of the molten blend toward the reactor inlet is met since a (admittedly small) portion of the material may be melted at column 4, lines 9-11. Note further that further melting takes place in subsequent squeeze sections at column 5, lines 8-12. At least a small amount of water is present at the end of the process at column 7, lines 37-40 and the extruder is

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therefore only partially filled with polymer as the water takes up some space. Note also that the screw elements having a pitch opposite to the transport direction are present in the zone where the thermoplastic is present at column 5, lines 41-52. Note that some heating takes place due to friction (i.e. mechanical energy) at column 5, lines 36-40 while heating may also be used at column 7, lines 44-49. Since the patent teaches use of shearing which generates heat and also teaches use of added heat by thermally heating, the limitations of the claims are met except that the specific ratio of mechanical to thermal energy is not taught. However, to find the optimal or workable range of a result effective variable would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention in that it requires only routine experimentation to find the optimum or workable range of a result effective variable absent any showing of surprising or unexpected results.

Applicant's arguments filed 2-20-07 have been fully considered but they are not persuasive.

Guntherberg discloses that a small amount of water is present at column 7, lines 37-41. Therefore the extruder is partially filled with water and therefore only partially filled with polymer. Guntherberg specifically discloses use of heat at column 7, lines 44-46 and it therefore cannot be said that Guntherberg discloses that thermal heating should not be used

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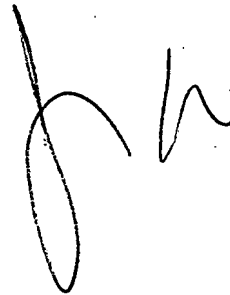
Any inquiry concerning this communication should be directed to Jeffrey C. Mullis
M-F, 9-5pm at telephone number 571 272 1075.

Jeffrey C. Mullis
J Mullis
Art Unit 1711

JCM

4-28-07

Jeffrey Mullis
Primary Examiner
Art Unit 1711

A handwritten signature in black ink, appearing to be 'JCM', located below the printed name and title of Jeffrey Mullis.